

### **REMARKS**

Claims 12 and 41 have been amended. All other claims remain the same.

This invention is particularly directed toward methods providing flat panel displays and particularly plasma display panels and field emission displays. In the previous response, we noted that the prior art as discussed at page 2 of the instant application employed methods that relied on the phosphors being a powder in a paste for deposition on a flat panel device. One of ordinary skill in the art would understand that the use of such pastes in the deposition on a flat panel device is complicated and labor intensive. It is respectfully submitted that the use of a direct-write tool device as instantly taught in the above identified application is both unobvious and its use for depositions on flat panel devices is totally unexpected. The inventive method allows for one to provide densely packed particles and obtain smooth and consistent line widths.

Claims 12-19, 24-27 and 29-42 have been rejected under 35 U.S.C. 103 (a) as being unpatentable over Okumura, et al., in combination with Nanto, further in combination with Ito. This rejection is respectfully traversed.

Both Nanto and Okumura, et al. employ pastes for deposition of the phosphors. This is exactly what the instant invention desires to overcome. Neither Nanto nor Okumura, et al. provide any teaching or suggestion of employing any sort of particulate suspension. More particularly, neither Nanto nor Okumura, et al. disclose a direct-write tool for the deposition of phosphors onto a flat panel device. It is obvious why Nanto and Okumura, et al. would not disclose a direct-write tool device, since the viscosity of the pastes which they deposit would be much too high for use in a direct-tool device. Although Nanto mentions automated syringe or nozzle (Col. 4, Lines 40-45), the patentee clearly teaches that the pastes are to be employed (Col. 4, line 41). There is no suggestion in either Nanto or Okumura, et al. of a low viscosity composition that could be employed in a direct-tool device.

It is respectfully submitted that Ito, et al. does not solve the deficiencies in Nanto and Okumura, et al. First of all, Ito is directed toward ink compositions.

Ink compositions, as the ordinary practitioner in the art know, are not very useful for forming useful flat panel devices, such as a PDP. Ito does not teach or make obvious the deposition of phosphors on a flat panel device. The use of phosphors as taught by Ito is to enhance the pigment dispersed inks. Inks are not useful for providing a plasma display panel or field emission display. It is further clear that Ito's inks are for providing patterns on ceramics, polyester resins and the like (Col. 1, line 61 – 65). Ito's inks would not be useful in a flat panel device for PDPs. It is respectfully submitted that the deposition of inks in accordance with Ito, onto for example, glass, provides an article different in kind and applications as compared with the deposition on, for example, glass to provide a PDP. It is further respectfully submitted that the ordinary practitioner in the art of phosphor deposition would not look to the ink arts for a new method of deposition. Not only would one have to consider the new apparatus for deposition, but one would have to consider the phosphor composition and how to manipulate such composition from a paste to a suspension for use in a direct-write device.

The examiner says that, "...it would have been obvious for one skilled in the art at the time the invention was made to have modified Okumura et al. (6,100,633) in combination with Nanto et al. (5,921,836) process by manipulating the phosphor composition to be applicable for (sic) ink-jet printing (sic) as evidenced by Ito et al. (6,416,174) with the advantages associated with the ink-jet process, i.e. more precise coating, increasing production, reduce costs etc. (Ito et al. (6,416,174) – col. 1, lines 50-60)." First of all the examiner has failed to explain how the phosphor compositions of Nanto and Okumura, et al. are to be manipulated (writer's emphasis). It is respectfully submitted, absent any teaching of how to manipulate the paste compositions of Nanto and Okumura, et al., so as to be useful in an ink-jet device, the obviousness type rejection must fail. Secondly, the quote "... i.e. more precise coating, increasing production, reduce costs, etc." is taken out of context from the teachings of Ito, et al. Ito, et al. at Col. 1, lines 50–60 is addressing precision, production, costs etc. as applied to deposition of ink on, for example, a ceramic substrate. One of

ordinary skill in the art could not predict or guess what the precision, production, costs, etc. would be by manipulating a phosphor paste to be used in an ink-jet device.

In any event, Ito, et al is only ink-jet printing a color pigment. The pigment is employed in a display application where it happens that for some displays phosphors are used to enhance the color. Note that the primary use for the color filter pigments that Ito is printing is LCD which contains no phosphors. There is absolutely no intention or discussion in Ito concerning ink-jetting a phosphor layer. It is well known in the ink art that phosphors can enhance ink pigments. It is, therefore, clear that Ito, et al. does not relate in any fashion to the deposition of phosphors on flat panel devices.

It is further submitted that the examiner's position regarding size distribution, density and particles as being hollow are "result effective variables" is a statement made without any supportive evidence. As mentioned above, the examiner has not shown how the pastes of Nanto and Okumura could be manipulated (writer's emphasis) so as to be useful in an ink-jet device. Now the examiner suggests that other properties with respect to a phosphor paste would become magically determined so as to convert the phosphor paste to a suspension useful in an ink-jet device. The Examiner has stated routine experimentation but has not presented any evidence to support his position. It is therefore respectfully submitted that it would not be obvious for one of ordinary skill in the art to take the ink-jet device of Ito, et al. and employ it in the methods of Nanto or Okumura, et al. while manipulating the pastes of Nanto or Okumura, et al. so as to be useful in the ink-jet device.

In view of the foregoing, Applicant respectfully submits that this case is now in condition for allowance. Prompt notice of allowance is respectfully solicited. Applicant respectfully requests that the Examiner contact the undersigned to telephonically discuss the application or to arrange a formal interview in the event the examiner believes issues can be resolved

It is not believed that any fees are owed with respect to this Response. However, please debit any necessary fees associated with this response from Deposit Account No. 50-3756.

Respectfully submitted,

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